REMARKS

Claims 1-38 were pending in the application before this Amendment. Claims 1-3, 9, 10, 18, 19, 25 and 26 have been cancelled. Claims 39-55 have been added. Reconsideration of this application is respectfully requested.

Claim Rejections under 35 U.S.C. §102

Claims 1, 3, 13, 14, 16, 17, 19, 29, 31 and 32 stand rejected under 35 U.S.C. §102(e) as being anticipated by Carlsson et al. (U.S. Patent No. 6,167,240). The rejection of these claims is respectfully traversed.

Carlsson et al. teaches a system and method to reduce interference in a cellular communication system that includes a controlling arrangement communicating with a number of base stations for controlling a number of mobile stations. In particular, a base station includes detecting means for detecting interference. The base station, upon detecting interfering signals from one or more mobile stations transmits an alarm signal to the controlling arrangement, which controls a number of base stations. The controlling arrangement, upon reception of an alarm signal from one of its base stations, orders identification (i.e., sends a message having an identification order) of all mobile stations connected to other base stations that are close to the base station transmitting the alarm signal.

Mobile stations then transmit identification signals in response thereto. The base station detects these identification signals and sends a message to the controlling arrangement containing information for the specific mobile station that is interfering. The controlling arrangement then orders the base station that controls the interfering mobile station to take appropriate action. Exemplary appropriate actions are generally disclosed in Carlsson et al. and include changing frequency, reducing transmission power, stopping the transmission or performing a soft handover with respect to the identified mobile station. Further, Carlsson et al. discloses modulating transmit power, in which case the respective base stations vary power control commands in order to identify possible mobile stations contributing to the interference.

There is no teaching or suggestion within the Carlsson et al. patent document that approaches the recitations in the independent claims. In particular, Carlsson et al. fails to teach or suggest at least "converting means for converting power up-adjust commands to power down-adjust commands when the detection means detects an increased interference condition and a duration of said detected increased interference condition does not exceed a first time threshold" as recited in amended claim 17 and "converting power up-adjust commands to power down-adjust commands when detecting an increased interference condition and a duration of said detected increased interference condition does not exceed a first time threshold" as recited in newly added claim 39.

Carlsson et al. merely teaches polling different mobile stations to determine the interfering mobile station(s) and thereafter taking appropriate action with respect to those mobile station(s), such as reducing transmission power. However, Carlsson et al. fails to teach or suggest *converting* power up-adjust commands to power down-adjust commands when a duration of a detected increase interference condition does not exceed a first time threshold.

Therefore, Applicants respectfully submit that Carlsson et al. fails to disclose each and every claim recitation in amended independent claim 17 and newly added independent claim 39, and the art grounds of rejection should be withdrawn. Further, claims 13, 14, 16, 29, 31 and 32 and newly added claims 40-47 are dependent upon allowable independent claims and are likewise allowable for at least the same reasons that the independent claims from which they depend are allowable.

Claims 33 and 36 stand rejected under 35 U.S.C. §102(e) as being anticipated by Gunnarsson et al. (U.S. Patent No. 6,493,541). The rejection of these claims is respectfully traversed.

Gunnarsson et al. teaches a transmit power control system wherein a time delay associated with a power control loop is compensated for by adjusting a detected signal quality value of a received signal (e.g., signal-to-noise ratio), based on one or more previous power control commands already sent, but whose effect has not yet been

experienced. Because the determined signal quality value of the received signal is adjusted based on one or more power control commands already sent, but yet to take effect, the transmit power level control command is appropriately determined so that it also takes into account a power control loop time delay.

Specifically, Gunnarsson et al. teaches a detector that detects a signal quality parameter associated with the received signal. A processor predicts an effect the transmit power control command will have on the detected signal parameter. More particularly, the processor predicts the effect that the transmit power control command would have if the transmit power control command had already been received and implemented in the transmitter. Using the predicted effect, the processor adjusts the detected signal parameter and generates a power control command based on the adjusted signal parameter. The prediction and adjustment compensate for the time delay associated with controlling the transmit power of the radio transmitter.

Additionally, a mobile station includes a controller 80 connected to a RAKE receiver 82, a transmit power controller 88, a transmitter 90, and a detector such as a signal-to-interference ratio (SIR) (or other signal quality) detector 100 to detect the SIR of signals received from mobiles. The RAKE receiver 82 includes plural receivers 84 and 85 connected to a diversity combiner 86. One or more signal strength detectors or similar detectors are employed in the mobile receiver 82 to detect the signal

strength or other parameter of received signals. Transmit power controller 88 determines the transmit power level (preferably as a signal-to-interference ratio (SIR)) of a received, diversity-combined signal.

With respect to the detector, it detects a signal quality parameter, such as signal-to-interference ratio (SIR) of a received signal from a controlled radio. The detected signal quality parameter may be adjusted by a processing entity (e.g., transmit power controllers) according to a most recently issued power command. A decision is made whether an SIR compensation value is less than an SIR target value. If so, a power up command is provided to a radio transmitter. Otherwise, a power down command is provided to the radio transmitter.

There is no teaching or suggestion within the Gunnarsson et al. patent document that approaches the recitations in the independent claims 33 and 36, as amended. In particular, Gunnarsson et al. fails to teach or suggest at least "selecting a *first power control scheme* when said detecting step does not detect an increased interference condition," "selecting a *second power control scheme* when said detecting step detects an increased interference condition" and "*converting power up-adjust commands to power down-adjust commands when detecting an increased interference condition* and a duration of said detected increased interference condition does not exceed a first time threshold" as substantially set forth in claims 33 and 36. (Emphasis added). The Office Action states that Gunnarsson et al. discloses a system that

generates power adjust commands based upon a selected power control scheme, and specifically, selecting a first power control scheme when the detecting step does not detect an increased interference condition and selecting a second power control scheme when the detecting step detects an increased interference condition.

Applicants submit that Gunnarsson et al. merely teaches a system wherein a single control scheme is used to determine whether to transmit a power up command or a power down command based upon whether a compensated SIR value is less than an SIR target value. Contrary to the recitations in the claimed invention of generating power adjust commands based on the *selected* power control scheme (i.e., a first or second power control scheme based upon the detection of an increased interference condition), Gunnarsson et al. teaches using a single control scheme defined by a single equation (i.e., compensated SIR value based upon measured SIR value plus incremental power increase or decrease multiplied by the most recent/latest power command value) to generate power adjust commands. *See Gunnarsson et al. column 8, line 44 to column 9, line 6.*

Further, there is no suggestion within Gunnarsson et al. to use *different* power control schemes based upon the detection of an increased interference condition. Additionally, Gunnarsson et al. fails to teach or suggest *converting power up-adjust commands to power down-adjust commands when detecting an increased interference condition* and a

duration of said detected increased interference condition does not exceed a first time threshold, as recited in amended independent claims 33 and 36.

Therefore, Applicants respectfully submit that Gunnarsson et al. fails to disclose each and every claim recitation in independent claims 33 and 36, and the art grounds of rejection should be withdrawn. Further, newly added claims 48-55 are dependent upon allowable independent claims and are likewise allowable for at least the same reasons that the independent claims from which they depend are allowable.

Claim Rejections under 35 U.S.C. §103

Claims 2, 10, 18 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Carlsson et al. and an obvious design choice; claims 15 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Carlsson et al. and Padovani (U.S. Patent No. 6,192,249); claims 4-9, 11, 12, 20-25, 27 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Carlsson and Chheda et al. (U.S. Patent No. 6,181,738); and claims 34, 35, 37 and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gunnarsson et al. and Chheda et al. The rejections of these claims are respectfully traversed.

Applicants submit that even from a cursory review of Padovani or Chheda et al., there is no suggestion or teaching within either of these

patent documents that approaches the recitations in the independent claims as discussed above. Therefore, Padovani and Chheda et al. fail to make up for the deficiencies of Carlsson et al. and Gunnarsson et. al. Thus, claims 4-8, 11, 12, 15, 20-24, 27, 28, 30, 34, 35, 37 and 38, which depend from allowable independent claims, are allowable for at least the same reasons that the independent claims from which they depend are allowable.

Therefore, Applicants respectfully submit that the art grounds of rejection should be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, and all of the stated grounds of rejection having been properly traversed, accommodated, and/or rendered moot, reconsideration of the rejections and allowance of each of claims 4-8, 11-17, 20-24 and 27-55 in connection with the present application is earnestly solicited. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is condition for allowance.

Should there be any outstanding matters that need to be resolved in the application before allowance thereof, the Examiner is invited to contact Gary D. Yacura (Reg. No. 35,416) at (703) 668-8023.

Pursuant to 37 C.F.R. 1.17 and 1.136(a), the Applicants respectfully petition for a one (1) month extension of time for filing a response in connection with the present application, and the required fee of $110.00 is attached.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

Respectfully submitted,

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ATTACHMENT SHOWING AMENDMENTS TO CLAIMS

Claim 4 has been rewritten as follows:

4. (Amended) The method of claim [1] 39, [wherein said system-based power control operation includes] further comprising:

comparing a signal-to-interference measurement for [the] a mobile with a target signal-to-interference level for the mobile;

generating a power down-adjust command when the signal-to-interference measurement for the mobile is greater than the target signal-to-interference level for the mobile; and

determining whether to generate a power down-adjust command when the signal-to-interference measurement for the mobile is less than the target signal-to-interference level for the mobile.

Claim 6 has been rewritten as follows:

6. (Amended) The method of claim [1] 39, [wherein said system-based power control operation includes] further comprising:

generating [a] power adjust commands based on a comparison of a signal-to-interference measurement for [the] a mobile and a target signal-to-interference level for the mobile;

judging whether an erasure frame has been received for the mobile; and

determining whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile.

Claims 13-17 have been rewritten as follows:

13. (Amended) The method of claim [1] 39, wherein said detecting step monitors changes in total reverse link signal strength at [the] a base station.

14. (Amended) The method of claim [1] 39, wherein said detecting step monitors absolute total reverse link signal strength.

15. (Amended) The method of claim [1] 39, wherein said detecting step monitors a ratio of power up-adjust commands to total power adjust commands.

16. (Amended) The method of claim [1] 39, wherein said detecting step monitors signal-to-interference levels for a plurality of mobiles.

17. (Amended) A power control system for generating transmit power adjust commands in a wireless communication network, comprising:

detection means for detecting interference conditions;

generating means for generating power adjust commands [in accordance with a system-based power control operation] when said detection means detects an increased interference condition[,said system-based power control operation based at least in part on system performance]; and

converting means for converting power up-adjust commands to power down-adjust commands when the detection means detects an increased interference condition and a duration of said detected increased interference condition does not exceed a first time threshold.

Claim 20 has been rewritten as follows:

20. (Amended) The power control system of claim 17, [wherein said system-based power control operation includes] further configured for:

comparing a signal-to-interference measurement for [the] a mobile with a target signal-to-interference level for the mobile;

generating a power down-adjust command when the signal-to-interference measurement for the mobile is greater than the target signal-to-interference level for the mobile; and

determining whether to generate a power down-adjust command when the signal-to-interference measurement for the mobile is less than the target signal-to-interference level for the mobile.

Claim 22 has been rewritten as follows:

22. (Amended) The power control system of claim 17, [wherein said system-based power control operation includes] <u>further configured for</u>:

generating a power adjust command based on a comparison of a signal-to-interference measurement for the mobile and a target signal-to-interference level for the mobile;

judging whether an erasure frame has been received for the mobile; and

determining whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile.

Claim 24 has been rewritten as follows:

24. (Amended) The power control system of claim 20, [wherein said system-based power control operation further includes] <u>further configured for</u>:

judging whether an erasure frame has been received for the mobile; and

determining whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile.

Claim 33 has been rewritten as follows:

33. (Amended) A method for generating transmit power adjust commands in a wireless communications network comprising:

detecting interference conditions;

selecting a first power control scheme when said detecting step does not detect an increased interference condition;

selecting a second power control scheme when said detecting step detects an increased interference condition; and

generating power adjust commands based on the selected power control scheme; and

converting power up-adjust commands to power down-adjust commands when detecting an increased interference condition and a duration of said detected increased interference condition does not exceed a first time threshold.

Claim 36 has been rewritten as follows:

36. (Amended) A power control system for generating power adjust commands in a wireless communications network, comprising:

detection means for detecting interference conditions;

selecting means for selecting a first power control scheme when said detection means does not detect an increased interference condition

and selecting a second power control scheme when said detection means detects an increased interference condition; [and]

generating means for generating power adjust commands based on the power control scheme selected by said selecting means; and

converting means for converting power up-adjust commands to power down-adjust commands when detecting an increased interference condition and a duration of said detected increased interference condition does not exceed a first time threshold.